

TABLE V

	FAT, PER CENT.		SOLIDS-NOT-FAT, PER CENT.		* DEPRESSION OF FREEZING POINT, °C.	
	Min.	Max.	Min.	Max.	Min.	Max.
Buffalo .. .. .	5.02	10.00	9.11	10.72	0.560	0.590
Cow .. .. .	3.05	6.50	8.70	9.80	0.550	0.580
Goat .. .. .	1.70	6.75	8.83	10.69	0.550	0.590
Woman .. .. .	3.10	6.70	8.07	9.90	0.550	0.590

\*The 'depression of freezing point' is given in preference to the 'freezing point' in order to eliminate the minus sign.

The figures for solids-not-fat varied considerably in each series, and the fat results showed enormous variation, particularly in the case of goat's milk, where the maximum was four times the minimum. Only the freezing-point figures approached constancy. These facts are brought out clearly in table V.

The results not only demonstrate the constancy of the freezing point within each series, but an extraordinary similarity between one series and another is shown. Human milk is worthy of special notice as it contains a relatively higher percentage of milk-sugar than that of the other mammals under consideration. The quantity of soluble salts present, however, is considerably lower. It would appear, therefore, that the sum effect of these two factors is similar in all four cases, and that the freezing point exhibits a comparatively small range of values.

#### Dried milk and infant foods

One sample of dried milk (powdered whole milk), and three samples of infant food derived from dried milk were recently received in the laboratory. The former was prepared for use according to the instructions provided (*i.e.*, to regenerate the original milk), and the latter were prepared for feeding as directed for the first week. The usual analysis was extended so as to include the cryoscopic determination as a matter of interest.

The approximate composition of the resulting preparations and the values obtained by the

cryoscopic test are indicated in table VI below:—

TABLE VI

	Dried milk	INFANT FOODS		
		No. 1	No. 2	No. 3
Fat ..	3.6	2.0	1.8	1.0
Proteins ..	3.2	2.9	2.4	0.9
Sugar ..	4.7	5.1	5.0	1.8
Mineral matter ..	0.7	0.7	0.5	0.2
Water ..	87.8	89.3	90.3	96.1
	100.0	100.0	100.0	100.0
Depression of freezing point, °C.	0.580	0.575	0.515	0.195

The extraordinary degree of dilution recommended for 'No. 3' accounts for its relative deficiency in almost all of the constituents and the low depression of freezing point.

[*Note.*—The attention of readers is drawn to a paper published in the *Indian Journ. Med. Res.*, Vol. XVIII, p. 57, on 'The Cryoscopy of Calcutta Milk' by Lieut.-Col. A. D. Stewart and Mr. N. L. Banerjea, of the Calcutta School of Tropical Medicine and Hygiene, who carried out a similar series of cryoscopic estimations. —EDITOR, *I. M. G.*]

## A Mirror of Hospital Practice

### CYANOSIS AFTER PLASMOCHIN

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MR. T. E. M., aged 28, European male, was admitted into the Carmichael Hospital for Tropical Diseases on 12th September, 1932, with the following complaints:—

- (1) Cyanosis all over the body.
- (2) Pain in the epigastric region and in the neck.

*History.*—During the past six weeks the patient had several attacks of malaria. Although no microscopical examination of the blood for malarial parasites was made at that time, the clinical symptoms of rigor and sweating, together with the improvement following the administration of quinine, pointed to a plasmodium infection. The last attack was from 26th August to 2nd September. The fever used to come every alternate day; it was attended with rigors, and subsided with sweating. Treatment outside the hospital was started by his doctor on 30th August; he was given, in all, 53 grains of quinine by the mouth as well as two injections of quinine bihydrochloride, ten grains each, on 30th August and 1st September. The temperature came down to normal on 3rd September and he was ordered to take two tablets of plasmochin (0.01 gramme

each) thrice daily for five consecutive days. He took four tablets on 4th September, six tablets on each of the next four days, and two tablets on 9th September, thus making up a total of thirty tablets or 0.3 gramme of plasmochin.

The patient first noticed he was getting 'blue all over his body' on 6th September, but he thought nothing of it. On 9th September he became very blue, was dyspnoeic, and felt very weak and prostrated. He was getting cold sweats on the forehead, and severe pain in the epigastric region, in the neck and along the back. He had no appetite and was constipated. The drug was discontinued on 9th September, and he felt slightly better, but the cyanosis, although less, persisted and he was admitted to the hospital on 12th September.

*Condition on admission.*—The patient on admission was markedly cyanosed; the skin and mucous membrane all had a definite bluish tinge. Besides a slight enlargement of the spleen nothing else abnormal was discovered. The heart and lungs were normal. The urine had a specific gravity of 1009 and contained no albumin nor sugar, but gave a strong reaction to indican. Urobilinogen was found in traces, but urobilin could not be detected even on spectroscopic examination.

A fresh blood film showed well-marked crenation of the red blood corpuscles, their colour being dichroic (yellow and green). No parasites could be found in the blood. On spectroscopic examination of the blood, bands of hæmoglobin could be seen, but neither methæmoglobin nor urobilin could be detected. The fragility of the blood was tested, with the following results:—

Initial hæmolysis .. 0.38 per cent. NaCl solution

Complete " .. 0.28

This shows that the resistance "of the red" blood cells was slightly higher than normal.

The patient was put to bed, and given alkalies and mild purgatives daily.

*Remarks.*—The interesting points about this case are:—(1) The persistence of cyanosis which lasted for over nine days. Usually it disappears 24 hours after the drug is stopped, and very rarely lasts 7 days. (2) Although the blood was spectroscopically examined when the patient was distinctly blue, methæmoglobin, to the presence of which the cyanosis is attributed, could not be detected. (3) The resistance of red blood cells to hæmolytic agents was increased and not decreased, while the patient had plasmochin cyanosis.

## TWO CASES OF PITYRIASIS RUBRA PILARIS

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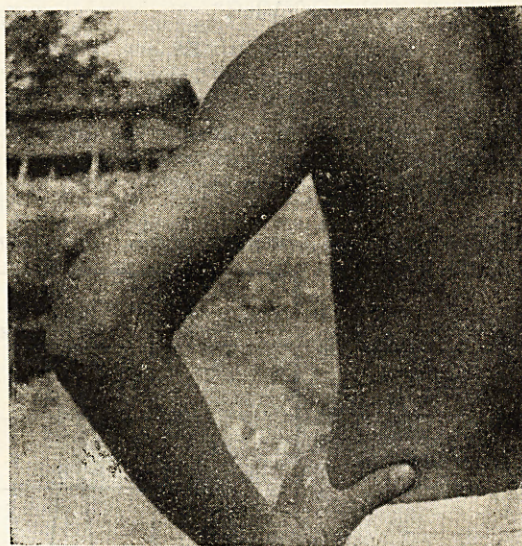
This disease is comparatively rare in India and the occurrence of two cases simultaneously is of more than passing interest.

*Case I.*—Sepoy, Umrao Sing, aged 20 years, was admitted into the Indian Military Hospital, Poona, on 22nd December, 1931, for a papular eruption on the body.

*Previous history.*—Nothing important and no members of his family have ever suffered from it. He used to perspire a good deal after exercise, but on 20th December, 1931, while in camp he caught a chill and next day noticed a papular eruption on the thighs and legs, which rapidly spread to the sides of his chest and abdomen, and the extensor surfaces of the upper extremities.

*Condition on admission.*—The patient is a well-built young man but with a general dryness of the skin of the body. The affected areas have a well-marked goose-flesh appearance and consist of follicular papules each about the size of a pinhead with a central horny plug surrounding a hair. These papules are well seen over the scapular regions, the extensor surfaces of the arms and forearms, the sides of the chest and over both the lower extremities. A few are also seen on the nape of the neck, but the scalp, face, front of the chest, fingers and the genitalia are completely free, and the palms and the soles do not show any hyperkeratosis. There is no itching or enlargement of glands and the Wassermann reaction is negative.

Microscopically each hair root was found surrounded by a horny plug of desiccated sebum.



Note the distribution of the papules.

*Case II.*—On 23rd December, 1931, Sepoy Gopal Singh noticed dryness of his thighs followed by the appearance of dry scaly horny papules. These extended gradually over both legs. Five days later he noticed follicular papules on the sides of the chest and abdomen, the extensor surfaces of both arms and forearms as well as over the shoulder blades. As in the previous case the scalp, face, front of chest, fingers, palms and soles are free. There is no itching and the Wassermann reaction is negative.

Differential diagnosis from:—

1. Lichen Planus.—This is preceded by itching, affects anterior aspect of trunk, forearms, wrists and genital organs. Papules are hard, shiny, yellowish-red in colour, flattened and depressed in the centre.

2. Psoriasis.—The scales are silvery and over-lapping.

3. Dysidrosis.—Occurs chiefly on hands and feet, sometimes on face and neck, but the typical aspect is seen on the fingers and itching is well marked.

*Treatment.*—Thyroid extract and arsenic internally, and alkaline baths externally have been tried with very little success.

Points of interest in these two cases are:—

1. The alleged sudden onset in both cases apparently due to exposure to cold while in camp.